9

OFF-TARGET DATE FUND[1]

There is the joke about a crack marksman who visits a village only to find that the village is pockmarked with bulls-eyes on every wall – with the centers perfectly shot out. He walks into a local pub and asks the bar tender who the person is who is such a perfect shot. The bar tender points to a scruffy looking country bumpkin at the end of the bar. The marksman walks up to the bumpkin and promises him a substantial amount of money if he can tell him how he became such a good shot. The bumpkin takes the money and tells him the answer is simple – he shot first and then painted the bull's eye around the shot!!

INTRODUCTION

[1] This chapter would have never been written if it had not been for the incredible amount of time taken and education provided by Karin Brodbeck, Roger Paschke, Charlie Ruffel and Matt Smith.

The same could be said about Target Date funds that have pervaded the US, which by some estimates has reached $185bn in assets under management.[2] These instruments were sold to individual investors as a panacea for their retirement problems and 2008 revealed the shortcomings of these products. As a result, the DoL has scheduled a series of hearings in June 2009 to review these products. For example, the 2010 target date fund fell on average 24.6 percent (i.e., average across all providers according to Morningstar), which means the investors hoping to retire in the next few years have lost over a quarter of their principal - hardly what one would expect for products that are marketed as, " **Simplicity:** Pick one fund — your decision's done; **Confidence:** Each fund is professionally managed and diversified; **Convenience:** Each fund is automatically adjusted over time"[3] The question one has to ask is what is truly meant by "your decision's done"? what constitutes professional management? And what is the value of "automatic adjustment?"

According to Institutional Investor (2009), T. Rowe Price's 2010 product returned -26.7 percent in 2008 (and it is not clear if that negative performance is before or after accounting for fees). The manager of T. Rowe Price's retirement products is quoted as saying, "2008 is one year out of many," – small consolation for the 60 years olds who invested in their fund and paid a reasonably attractive fee for the privilege of doing so. Our guess is that other managers are equally culpable in not managing the risks inherent in such products.

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[2] Institutional Investor, March 2009, Page 34.

[3] Manager X – Retirement Date Funds Summary March 2009. We will keep this manager's name confidential as this article is not about the practice of a single manger but rather of the industry as a whole – this manager being just one of the larger players.

The problems in the DC industry are more acute as noted in Swensen (2005): "Serious problems result from forcing individuals to accept responsibility for retirement saving, beginning with lack of full participation in defined-contribution plans. According to a 2001 Federal Reserve Survey of Consumer Finances, more than one of four eligible 401(k) plan candidates chose not to participate. Of these employees that do participate, less than 10 percent made the maximum contribution. When participants change jobs, a distressingly high percentage cash out their accumulated retirement plan assets. Without setting aside the seed corn to begin the asset accumulation process, employees face a bleak retirement harvest."[4]

This Chapter reviews the current TDF offerings and highlights them in reasonably generic terms. In doing so, the chapter focuses on the many aspects of the design that are poor (or expensive) and risky, and asks whether these risks were adequately disclosed to investors. TDFs were created to serve a specific need – off those who participated in DC schemes, most were not financially savvy and hence made poor investment decisions. For example, many contributors who held company stock ran the risk of losing their savings when the companies went bankrupt. During the technology bubble, many investors in risky technology funds wiped out their pension accumulation. Others invested in stable value funds which did not provide adequate wealth at retirement. TDFs were supposed to be an improvement on these several insecure offerings – helping with the rebalancing to portfolios with less equity as one approached retirement.

[4] Page 22.

This discussion is embellished with an analysis of the impact of the 2008 market downturn on savings and investment behavior. The implication is that products have to be improved and the chapter provides some suggestions for plan sponsors to help participants. It also offers a simple solution to reducing costs by as much as 0.5 percent per year – this is a straight line improvement to investment returns. It then discusses fees and how fees might be lowered and even how the fee structures should be re-designed to ensure proper alignment of interest given that investors be dismayed to discover 30 years from now that they had been sold a poor product and that their fees cannot be recaptured if the fund provider was either lucky (if they outperform the benchmark) or lacking in skill (if they underperform). The chapter discusses how these funds might be appropriately benchmarked, specifically on a risk and skill-adjusted basis, and how plan sponsors should attribute performance to the various decisions being made by the providers (not always clear to the end participant) to see if they are getting their money's worth. Sadly, the easiest way to benchmark these funds is on a current performance basis, so an approach that can be applied to give some measure of expected wealth is briefly featured.

At the outset, one must acknowledge that there is no clear academic theory on how individual investors should save and invest to achieve retirement goals (as the problem is too complex); hence, commentators have argued for socializing risks in country pension schemes or replicating DB-like profiles in product offerings through guaranteed real return products (Modigliani and Muralidhar 2004). Interestingly, Ghilarducci (2008) would provide support to the recommendations of Modigliani and Muralidhar (2004), even though she does not acknowledge the prior work on the topic. Therefore, while this chapter is

aggressive in its critique of TDFs, the intent is to raise the bar as mistakes in DC plans end up impacting individuals who are the least capable of bearing such risks.

THE TYPICAL TARGET DATE FUND

"We on this side of the House are not such fools as we look" Unknown House member.[5]

THE BASIC STRUCTURE

For a given "target date" typically restricted to years ending in 0 or 5, the standard fund can be characterized by a starting allocation to a high level asset allocation (stocks, bonds and cash), a glide path (or a predetermined rate of reallocation between equity and fixed income/cash), and a desired allocation at the retirement date. The fund seeks, through these three parameters, to achieve an average allocation that is also pre-specified. Typically, the assumed retirement age is 65.

"Each fund's asset mix becomes more conservative–both prior to and after retirement–as time elapses. This reflects the need for reduced investment risks as retirement approaches and the need for lower volatility of a portfolio, which may be a primary source of income after retiring. Once a fund reaches its most

[5] Petras and Petras (2001) quoting a House member overheard retorting to taunts.

conservative planned allocation, approximately 30 years after its stated retirement year, its allocation to stocks will remain fixed at approximately 20 percent of assets. The remainder will be invested in fixed-income securities."

"The allocations reflected in the glide path are also referred to as "neutral" allocations because they do not reflect tactical decisions made by Manager X to overweight or underweight a particular asset class based on its market outlook." [6]

WHAT THE INVESTOR IS AND IS NOT DELEGATING TO THE FUND MANAGER

A series of risks that these target date fund products engender are summarized in Table 9.1 to indicate how lop-sided the balance is between the participant who bears the risk and the entity to whom the authority to make decisions has been delegated. By virtue of making a single selection of a target date fund, the participant opts for many risks, and this section is intended to highlight such risks to plan sponsors so that they pressure the providers to improve the design of these products.

Objectives: To some degree, the investor is delegating this key decision to the fund manager as the objective of the investor is never clearly examined. Muralidhar (2001) has shown how the optimal allocation (static and dynamic) for DB funds depends on target wealth/replacement rates, initial wealth and risk tolerance (not to mention time). It is also clear from their discussion that the process of making investment decisions in DC plans is identical to that in DB plans,

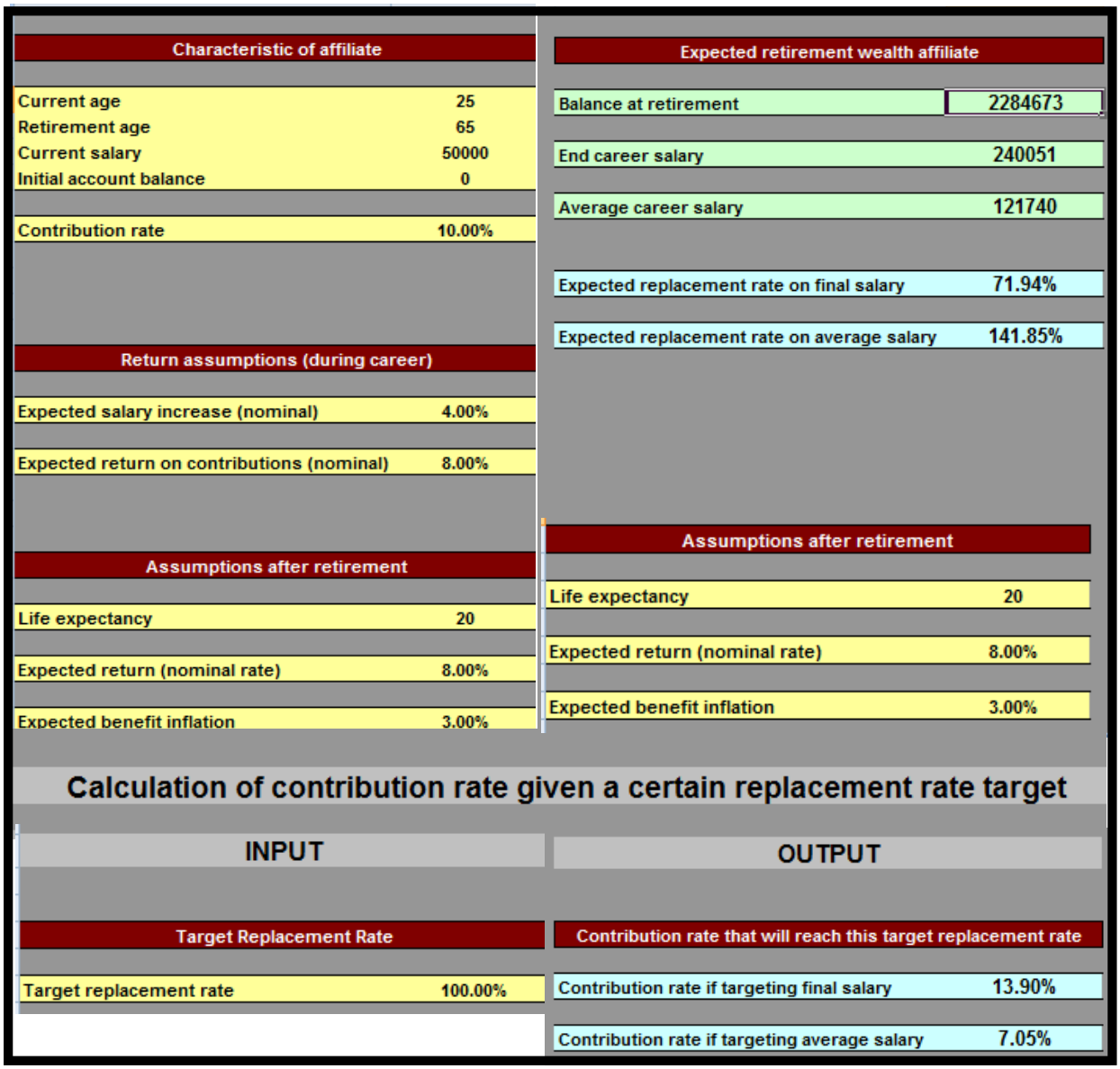
[6] Manager X Retirement Funds, Prospectus, October 1, 2008.

except that DB plans have a longer time horizon and a greater ability to bear risk (because of pooling). The plan sponsor bears some responsibility in helping participants articulate objectives and ensure that correct products are available to satisfy the objectives. The process requires inputs such as: (i) current wealth and desired income at retirement; (ii) target retirement age and expected life post retirement; (iii) assumptions about investments and inflation, resulting in the following output: (a) how much to save going forward; and (b) what return to target. An example of how this analysis should be conducted is provided in Asad et al (1997) and the template for this retirement trade-off calculator is shown in Figure 9.1.

In Figure 9.1, a 25 year old with a starting salary of $50,000 hopes to retire at 65. If they contribute annually 10 percent of current salary (with nominal salary growth of 4 percent), live 20 years post retirement and earn 8 percent returns (with 3 percent inflation), they can receive 72 percent of final salary or 142 percent of average salary, through retirement through death. Alternatively, as the bottom part of Figure 9.1 shows, targeting 100 percent replacement leads to specific recommendations on contributions.

There is nothing in the fund selection process that comes close to highlighting this trade-off between pensions, contributions and investment returns. Asking individuals to select funds based on a retirement date or some arbitrary measure of risk tolerance is fraught with problems, as the link between funds and objectives is weak. The investor makes the fiduciary decision on objectives (which can be implied from the choice of fund, as shown in Muralidhar 2001) but, in effect, is being poorly served and advised by the fund manager and the plan sponsor. Interestingly, Gardner and Fan (2008) discuss the need for providing a

comfortable pension and provide a detailed discussion in their paper, but then fall into the same trap as other providers in their desire to create a "simple, transparent, and consistent" product.



Characteristic of affiliate	
Current age	25
Retirement age	65
Current salary	50000
Initial account balance	0
Contribution rate	10.00%

Expected retirement wealth affiliate	
Balance at retirement	2284673
End career salary	240051
Average career salary	121740
Expected replacement rate on final salary	71.94%
Expected replacement rate on average salary	141.85%

Return assumptions (during career)	
Expected salary increase (nominal)	4.00%
Expected return on contributions (nominal)	8.00%

Assumptions after retirement	
Life expectancy	20
Expected return (nominal rate)	8.00%
Expected benefit inflation	3.00%

Assumptions after retirement	
Life expectancy	20
Expected return (nominal rate)	8.00%
Expected benefit inflation	3.00%

Calculation of contribution rate given a certain replacement rate target

INPUT	
Target Replacement Rate	
Target replacement rate	100.00%

OUTPUT	
Contribution rate that will reach this target replacement rate	
Contribution rate if targeting final salary	13.90%
Contribution rate if targeting average salary	7.05%

Figure 9.1. The pension, contribution, and investment trade-off calculator.

Detailed Sub-Asset Allocation: Each fund seeks to achieve its objective by investing in a set of underlying mutual funds which represent various asset classes

and sectors. In other words, once a fund commits to holding a 50-50 Stock-Bond mix, how that 50 percent is allocated to international and domestic stocks or value versus growth stock, etc. is a decision delegated to the fund manager, and often the time of allocation of these assets is also delegated to the fund manager, as timing is not pre-specified. Once again, product providers are allowed to take a bet on timing and allocation that must be captured in subsequent attribution.

Choice of Funds and Fees: Many providers include only funds that are a part of their fund family, whereas others represent open architecture and include outside manager funds as well. For example, choosing only funds from within a fund family assumes that no other outside fund, on an after-fees and cost, is effective. Moreover, some products use strictly passive funds, whereas others opt for more expensive, active funds. The value of the choice of even passive funds (as there is a choice between replicating a benchmark through futures, passive funds, or ETFs – each with resulting implications for performance and cost) will be examined in detail.[7] Recently, firms like Charles Schwab have begun to feel the pressure on fees, but even after their so-called reductions, the fees are in the range of 0.61 percent - 0.76 percent. Later, the chapter demonstrates that these fees are exorbitantly high for a simple TDF .[8]

Choice of Benchmark Passive Indices: Closely linked to the above decision is the passive index to which the assets are benchmarked in each asset class. This has implications for cost-effective replication and also potentially the impact/value of

[7] Average DC fund fees = 0.72 percent - http://www.plansponsor.com/pi_type11/?RECORD_ID=45978&page=2

[8] http://www.pionline.com/apps/pbcs.dll/article?AID=/20090421/REG/904219997&nocache=1

active management. This decision is also delegated to the fund manager by the investor, because of the lack of knowledge or appropriate advice in respect of the impact of this decision. Chapter 3 has shown how pension funds can benefit from selecting futures-based benchmarks; a similar exercise will be suggested later in this chapter.

Reallocation Process: Each fund is managed to a specific retirement year (target date) that is typically included in its name (i.e., TDF 2040), and the investor is responsible for choosing this date. Over time, the allocation to asset classes and funds will change according to a predetermined "glide path" (the glide path is the reallocation of asset classes over time). Moreover, two TDFs with the same time to maturity have the same allocation to equity and fixed income. While managers proclaim that this is in the interests of consistency, one could argue that this is not in keeping with SMART VN Rebalancing, as a fund with a 45-year history (with five years remaining) of great performance has greater solvency and risk-bearing capacity than another fund with the same time to maturity but with poor performance. While the glide path is usually prescribed, the prospectus for the average fund gives latitude to the fund manager around the target (e.g., +/-5 percent around the glide path), how this range is utilized within the sub-asset classes, and also the timing of these shifts, and hence investors delegate this too to the fund manager. In the section on attribution, the chapter addresses how the industry should measure and manage such discretion.

The prospectus is typically coy with regard to the fact that the fund manager does not deny that they are taking a tactical view on the market in designing a glide path, but only that it is devoid of a market view. It will be shown that the tactical

decision based on age may be a lot more insidious than one that is based on market views, as it is effectively being set up as the investor's decision, thereby absolving the fund manager of the fiduciary responsibility thereafter (something most individuals would shirk from doing if the facts were presented this way).

Risk management: The fund's objective and who is responsible for managing risks is not clear, as shown in Table 9.1. The fund does not guarantee any retirement income (or target annuity as a percentage of salary – called the replacement rate). Again, the language of the typical prospectus, vetted by lawyers no less, states that the process of reallocation is intended to satisfy "the need for reduced investment risks as retirement approaches and the need for lower volatility of a portfolio."[9] However, if bonds perform very poorly close to retirement and are extremely volatile, then the investor has no recourse as their glide path has the investor's earlier approval. In effect, risk management is now largely the responsibility of the investor, who is making decisions about markets, often 20-30 years in advance, with little knowledge or ability to gauge the risks involved. The claim that this portfolio is conservative is linked to the need for income in retirement without regard to the impact on the value of the principal.

Again, the language in the prospectus in advising investors on how to make investment decisions is noteworthy. "Consider your estimated retirement date and risk tolerance. These funds' investment programs assume a retirement age of 65. It is expected that the investor will choose a fund whose stated date is closest to the date the investor turns 65. Choosing a fund targeting an earlier date

[9] Manager X prospectus. The prospectus is chock full of language on investment risks – currency risk, duration risk etc, but are silent about not achieving the investor's goal.

represents a more conservative choice; targeting a fund with a later date represents a more aggressive choice."[10] One can easily show that these statements are plain wrong.

Table 9.1: The lop-sided nature of risks borne by participants

Decision	Risk Borne By	Delegated to
Objectives at retirement	Participant	Provider is leading Participant to wrong objective with bad products. Plan sponsor needs to bridge the gap.
Asset allocation over time (formal glide path)	Participant	Provider, with no recourse if participant's true objective (comfortable pension) is not met.
Rebalancing around glide path	Participant	Provider, with no recourse (e.g., refunding fee) if this action detracts value.
Detailed sub-asset allocation	Participant	Provider again, with no recourse to fees paid if such selection is poor.
Choice of funds and fees	Participant	Plan Sponsor can choose among different vendors.
Choice of benchmark passive indices	Participant	Plan Sponsor, but not really clear if they can exercise much discretion, given the service provider's goal to provide products in bulk.
Risk management	Participant	Provider, who again is absolved of all responsibility, as only an asset allocation is agreed to and not a target pension or retirement wealth.
Currency risk	Participant	Provider, who often will not manage such risks because they got the participant to agree to this implicitly.

Currency risk: Many funds invest in foreign assets and highlight the impact of currency risks. However, Muralidhar (2001) has shown that the choice of a long-

[10] Ibid.

term benchmark for currency carries with it an implicit bet on the US dollar. For example, an unhedged (fully hedged) benchmark for international assets, which is then passively replicated, takes an implicit view that the US dollar will be weak (strong). Unless active currency management is employed in the international equity fund – a rare occurrence, and even rarer would be the finding that these managers are professional currency managers –, the investor is taking an unmanaged currency bet.

THE SURVEY SAYS

There is a famous game show in the United States called "Family Feud," where two clans compete against each other in answering questions relating to a survey conducted on the general public. Before announcing the results, the host usually leads off with the line, "…and the survey says…" before revealing the answers from the survey, and the clan members realize the accuracy or inaccuracy of their guess. In a similar vein, a recent survey of the general population provided results on their understanding of TDFs: sadly, the survey paints a dismal picture of the participants' understanding of these products. One would expect that if Table 9.1 were shown to participants, plan sponsors, and DoL representatives, the reaction would be more fear than willingness to participate in these products. The article is taken verbatim from Plan Sponsor magazine's website to ensure completeness.

"Promises They Can't Keep: Misconceptions about Target-date Funds

A recent survey from Envestnet Asset Management revealed individuals have trouble understanding target-date funds.

Only 16 percent of survey respondents said they had heard of target-date funds prior to the survey, and 63 percent of those incorrectly described them.

After reading a composite description of target-date funds, respondents said the funds offered the following promises:

- Nearly 62 percent of respondents thought they would be able to retire on the fund's target date;
- 62 percent said they could spend less time tracking their progress toward retirement goals;
- Almost half (48.6 percent) said they could stop worrying about investment and savings decisions and leave everything up to a professional;
- Roughly 38 percent of respondents believe the funds will produce a guaranteed return;
- More than one-third (35.5 percent) of respondents believe their money will grow faster in target-date funds than in other investments; and
- Almost 30 percent believe they can save less money with the funds and still meet their retirement goals.

Respondents also had little sense of the risks of investing in target-date funds:

- 41 percent think there is little or no risk of losing money in a one-year period, and 57 percent believe it is unlikely that they can lose money in any 10-year period;
- One-fifth of respondents believe it is less likely they could lose money in target-date funds than in money market funds, while 50 percent believe the odds were equal;
- 28 percent thought they were less likely to lose money in target-date funds than in equity mutual funds, while 52 percent thought the odds were the same; and
- 38 percent of respondents thought the risk levels in funds with the same target date would be very similar.

When asked to choose from a list of seven potential target-date portfolios, the majority of respondents selected the most aggressive fund, based on expected returns over a 10-year period. Only 8 percent of [the] respondents said [that] selecting a retirement savings rate was the most important retirement planning decision they could make.

Envestnet surveyed 251 individuals aged 25-70 employed now or in the past year.[11]

[11] www.PLANSPONSOR.com. May 5, 2009

THE NUMBERS – SOMETHING HAS GOT TO GIVE

To explain the general implications for the risks borne by DC participants, the attached example highlights the key actions that a year like 2008 would imply to ensure a reasonable retirement. For most young participants, these plans may provide the entire retirement income (given the uncertainties of global Social Security programs).[12]

The case study reviews three identical individuals at different stages of their lifetime – the first, a 25 year-old employee who has just joined the workforce with a $50,000 per year salary. To keep the analysis similar, the case study also highlights the same individual, assuming that she/he had commenced employment in 1988 and is currently 45 years old; the third is an individual on the cusp of retirement, who joined the workforce in 1968 (and is currently 65 years old). The model with its required inputs and outputs as shown in Figure 9.1 is used in the analysis. The assumptions for the general economic environment, demographics, and asset markets are provided in Table 9.2. For simplicity, inflation is assumed to be a static 3 percent every year, and real salary growth is assumed to be 1 percent annually; the participant is expected to live for 20 years post retirement and contribute 10 percent of the current salary (with no caps – again for simplicity) into a pension plan.

The base assumption is that assets earn a guaranteed 8 percent for every year except 2008, when they earn -20 percent. Asad-Syed, Muralidhar and van der Wouden (1998) provide a simple model to help participants establish the linkages

[12] See Modigliani and Muralidhar (2004).

among the variables – for a target replacement, for the given parameters, there is a unique contribution and vice versa (Figure 9.1). In other words, if one sets their mind on a target replacement rate, and experience a bad year of performance, contributions must increase and/or the rate of return on future investments must increase.

Table 9.2. Assumptions for the case study

Return in 2008	-20 percent
Annual Fees	0.75 percent
Starting Income	50,000
Standard Contribution	10 percent
Return on Assets Prior to and After 2008	8 percent
Annual Salary Growth	4 percent
Annual Inflation	3 percent
Working Life	40 years
Post Retirement Life	20 years

Aon (2008) demonstrates that a reasonable replacement rate for an average cohort is approximately 70-78 percent of the final salary. As post-retirement costs, including taxes, are lower, individuals need to target a much lower income post retirement. Table 9.3 provides the results and shows what would happen in a perfect world. If the various parameters are fixed, then in a perfect world with no stochasticity of variables, the participant would receive approximately 72 percent of the final salary (or 142 percent of the average salary). Conversely, should the participant choose to receive a 100 percent replacement rate in every year of retirement, then at an 8 percent annualized return, they must contribute approximately 7 percent for a pension that is based on the average salary and 13.9 percent for a pension that is based on the final salary.

Table 9.3: A Perfect World – The link among replacement rates, contribution rates and rates of return

Scenarios	Replacement Rate	Balance at Retirement	Contribution at 8% for 100% Replacement	Contribution at 7.25% for 100% Replacement
Perfect Life - Average	141.85%	2,284,673	7.05%	8.87%
Perfect Life - Final	71.94%	2,284,673	13.90%	17.50%

The last column in Table 9.3 demonstrates one of the more insidious aspects of the current TDFs – namely, the impact of fees. By all accounts, the fee of the average product is approximately 0.75 percent annualized. This is high for the services provided and fees can and should be dramatically reduced; but the key point is that the application of fees reduces the net return which, in turn, **raises the required contribution by 1.82 percent a year** (if the client seeks a 100 percent replacement on the average salary) **and by 3.6 percent a year for a participant focused on the final salary.** This simple table demonstrates the dramatic impact of fees – however small – on saving behavior, but the advice is not being provided to participants.[13] This is particularly relevant because in 2008 many companies dropped or dramatically lowered their 401(K) match in the United States – simply put, they implicitly told participants to lower their retirement expectations, especially given the damaging impact of asset performance in 2008.

To highlight the impact of a year like 2008 on retirement planning, Table 9.4 demonstrates how it affects participants in various cohorts – from a new entrant,

[13] I thank Roger Paschke of the Hearst Corporation for motivating this discussion. In his quest to design the best system for his participants, he continues to focus on advising staff on how to save, and the next table is in response to my discussions with him.

to a mid-career employee, and a person on the cusp of retirement. For simplicity, assume that all TDFs earned -20 percent in 2008. As many fund providers have not changed their long-term expected return forecasts, continue to assume that the glide path ensures an 8 percent (or 7.25 percent after fees) annualized return. This means that fixed income returns must increase over time (as these portfolios tilt more into fixed income), a situation that is probably at odds with the current level of rates and the potential impact of inflation. For the new entrant, a big shock like the 2008 bleak performance requires higher contributions, i.e., contributions that are only slightly higher than the original target contribution – but if a company match has been withdrawn, then the participant needs to step up to the plate to make up the difference (and this will hinder consumption at a macro level which does not augur well for the future return on equity).

The problems really begin to show in the case of the 45-year old employee, as the negative return was earned on a pool of assets that was reasonably substantial (i.e., **the -20 percent returns was not applied just to the contribution for 2008, but to the entire savings until that date**). In simpler terms, given the reduced time to make up shortfalls as one ages, the 2008 performance requires that a 45 year-old participant double their contribution to remain hopeful of achieving the original target replacement rate. **With the 65 year-old, the number is not reported. The required contribution is in excess of 400 percent, as the depletion of wealth is devastating**!

Table 9.4: Impact of 2008 and fees on different cohorts with different retirement objectives

Age in 2007	Wealth at end 2007	Wealth at end 2008	Contribution at 8%	Contribution at 7.25%
25 Year Old - 100% Average	5,400	4,320	7.10%	9.03%
25 Year Old - 100% Final			14.18%	17.90%
45 Year Old - 100% Average	344,383	275,507	**15.01%**	**16.92%**
45 Year Old - 100% Final			**28.72%**	**31.42%**
64 Year Old - 100% Average	2,115,438	**1,692,350**	N/A	N/A
64 Year Old - 100% Final				

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So, to the T. Rowe Price manager who said that 2008 was just one year out of many, we say: Tell it to the 65 year-old, and even to the 45 year-old who now has to save double. However, a smart plan sponsor's expectations from this same manager should be on the lines of: '"maybe the **bulk of the fees need to be deferred and paid only if the target return is achieved."**

SIMPLE FIXES AND SUGGESTIONS FOR IMPROVEMENTS

"Honest businessmen should be protected from the unscrupulous consumer"
Lester Maddox[14]

The industry's current approach to the problems of the 2008 downturn border on the inefficient. Rather than fixing what is broken, the entire focus is on (i) whether to include outside managers or not, or add passive managers to lower fees; (ii)

[14] Petras and Petras (2001), page 31, quoting Lester Maddox, then governor of Georgia, on why Georgia should not create a consumer protection agency.

add illiquid, high fee asset classes such as private equity and hedge funds; (iii) find a way to incorporate the managers in the DB plan to lower manager costs; (iv) meddle with the glide path; and (v) add new asset classes (TIPs, Emerging markets) to "increase diversification." There is apparently some attempt to start to guarantee annuities as the focus shifts from asset allocation to retirement income, but this is far from the norm.[15] Since, unfortunately, none of these measures achieves any lasting benefit, a few alternatives are suggested below. In addition, this chapter makes a minor contribution to the serious attempt to benchmark and rate these funds, and attribute performance to various decisions.

PROVIDERS MUST STATE A TARGET RETURN (OR REPLACEMENT RATE)

At a minimum, plan sponsors should require TDF providers to state a long-term return on their various products. While there is no guarantee that these will be achieved, at the least the participant will know where they stand and can engage in thoughtful retirement planning, using the model in Figure 9.1 and a version of the analysis provided to support Table 9.2. In this manner, TDF products may be ranked more clearly based on their target return, using either absolute or risk-adjusted rankings. However, plan sponsors tend to be concerned that participants who are not financially sophisticated may not be capable of making the distinction between higher returns and higher risk.[16]

[15] http://www.pionline.com/apps/pbcs.dll/article?AID=/20090421/REG/904219997&nocache=1.
[16] I thank Roger Paschke for this clarification.

PROVIDERS MUST BE EXPLICIT ABOUT WHAT RISKS PARTICIPANTS BEAR AND GUIDE THEM ON SUCH RISK TAKING

If providers continue to provide TDF products, the least they can do is improve their disclosures of risks being borne by participants and the ways to mitigate the risk. For example, all these TDF providers are massive investment complexes – with complete teams of well-trained staff who can provide advice (for free) on how the funds are likely to perform in the coming year, given their outlook on stocks versus bonds. With such information, a smart participant can at the least switch from the fund they are in to another that reflects the best thinking of the fund complex. In effect, **getting out of a fund that is likely to underperform is risk management**. Stepping out of a few land mines will allow a high probability that retirement objectives are achieved without substantial additional sacrifices.

CREATE EXPOSURE TO ASSETS THROUGH FUTURES AND DRAMATICALLY LOWER COSTS

If the key to achieving long-term retirement objectives, at least with the blind rubber stamp of the Department of Labor's QDIA, is to focus on asset allocation, then maybe the various fund providers should give participants a break and use futures to create a broadly diversified portfolio of assets that are liquid, transparent, readily traded at low cost, have limited credit risk, etc. Today, for the average US client, the following exposures can be readily created: US Large Cap, US Small Cap, MSCI EAFE, MSCI Emerging (low liquidity today, but if $10 billion moved to this market, liquidity would improve dramatically), US Government

Bonds, Foreign Government Bonds, Currency, and even Commodities. One would expect that utilizing futures to create asset class exposure can **save participants as much as 0.5 percent annually relative to industry average costs**. Therefore, this can also be considered to be the benchmark to measure all TDFs, as discussed later, as this is the most liquid, transparent, lowest cost portfolio.

APPLY SMART REBALANCING TO THE VARIOUS FUNDS

Since the fund managers are taking a host of bets almost as a matter of practice, it seems like the most valuable bet would be to implement a SMART Rebalancing program. In this fashion, the link to an artificially chosen and DoL rubber-stamped dynamic asset allocation can be easily mitigated. So if it turns out that older cohorts are largely being pushed into fixed income, but given current yields and the likelihood of further debt being issued by the government to bail out an economy in trouble or any rise in inflation, the general consensus is that fixed income will perform worse than, say, cash or equities, then fund managers (and even the DoL) should implement some version of SMART Rebalancing to protect the naïve participant.

ENSURE CLEAR ATTRIBUTION OF PERFORMANCE

As shown in Chapter 1, the same principles of attribution can be applied to TDFs as they are operating in much the same way as pension funds, and have only three sources of excess return over the futures-based benchmark; namely, (i) manager value added (by mandate); (ii) choosing benchmarks different from the

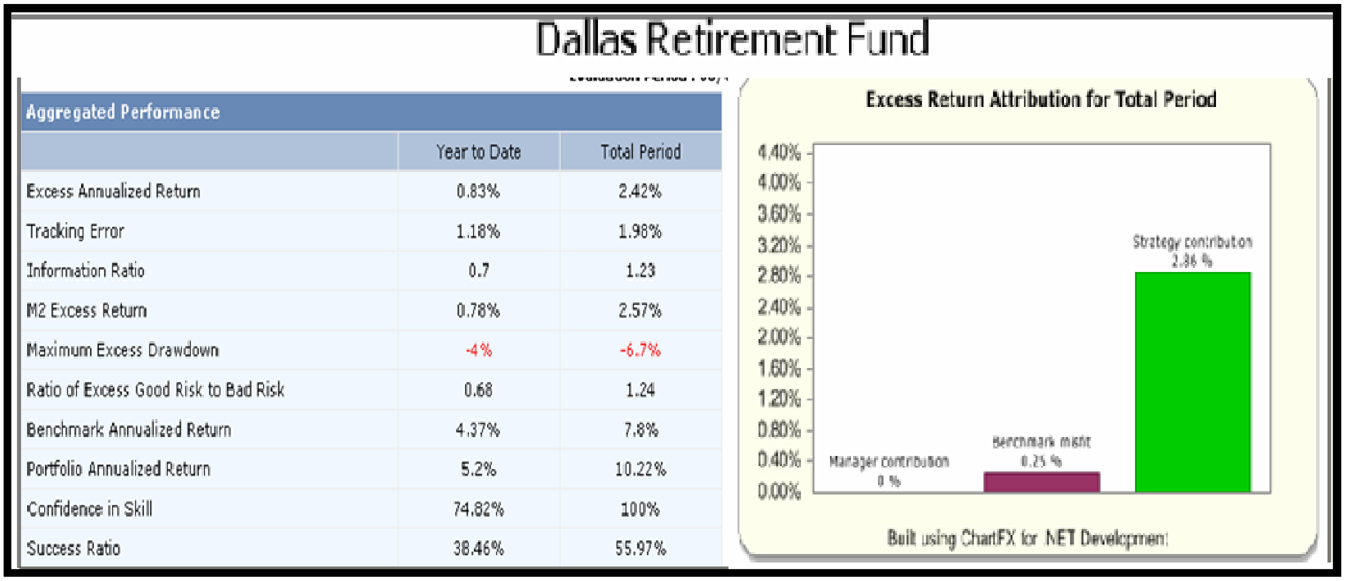
futures-based benchmarks; and (iii) dynamic allocation to various decisions versus a static allocation. Figure 9.2 is a repeat of the same chart shown in Chapter 1.

CUT FEES AND DEFER THEM TILL SUFFICIENT TIME HAS PASSED

Once fund managers use futures contracts to create asset class exposure and drop the basic fee, then plan sponsors should go the additional step of righting another wrong – **namely, not paying managers up front for performance that is not guaranteed for many years into the future**. Fund managers should get a basic fee of a few basis points to set up the structure of the funds, but the balance of the fee should be paid out only when they can credibly show that they have outperformed the static, naïve benchmark on a risk- and skill-adjusted basis.[17] Setting up the right incentive scheme is critical to ensuring that fund managers do not go on a massive asset-gathering run, but rather focus on delivering the objectives that the participants need. This will be covered in more detail in future research, as a number of operational issues need to be clarified.[18]

[17] We will pursue this in separate research, but in a nut-shell, this would require calibrating all target date funds to a fund that is run (a) with a static allocation which at the current average expected return of all vendors achieves say an 8 percent expected return; and (b) assumes that all assets are created using futures – so the benchmark indices are also chosen. The glide path is a tactical bet as is the choice of managers other than the most liquid option. Now every fund can be measured against this live fund on an after-fee basis and risk adjustment could be done using either the M-square or the M-cube (will require a target risk budget). The manager will also only be paid the balance of the fee once the confidence in skill exceeds some threshold such as 75 percent. All of this has been covered in the book in Chapters 2, 3 and 7.

[18] I thank Karin Brodbeck for this comment.


Dallas Retirement Fund

Aggregated Performance	Year to Date	Total Period
Excess Annualized Return	0.83%	2.42%
Tracking Error	1.18%	1.98%
Information Ratio	0.7	1.23
M2 Excess Return	0.78%	2.57%
Maximum Excess Drawdown	-4%	-6.7%
Ratio of Excess Good Risk to Bad Risk	0.68	1.24
Benchmark Annualized Return	4.37%	7.8%
Portfolio Annualized Return	5.2%	10.22%
Confidence in Skill	74.82%	100%
Success Ratio	38.46%	55.97%

Figure 9.2. Analyzing TDF performance – risk-adjusted and clearly attributed

BENCHMARKING, RISK-ADJUSTING AND RATING FUNDS

This is a topic for a complete book on its own, given the diversity in starting allocations, glide paths, choice of benchmarks, etc. Gardner and Sirohi (2007) present a simple but very effective measure of performance which they term the Target Date Performance Measure (TDPM). They propose a measure as follows:

$$TDPM = W_F/W_B * 100 \qquad (9.1)$$

where W_F is the wealth generated at the target date by holding a target date fund from inception to target date; W_B is the wealth generated at the target date by holding the benchmark fund from inception to target date; and 100 is used for normalization. The attractive feature of the TDPM is that all funds can be measured on wealth rather than returns; and all funds in a family can be

compared. The problem is that as there is no risk- and skill-adjustment, one needs to develop norms along the lines of adjusting for the fact that the fund manager can increase the fund's volatility, or the fact that one fund having a higher TDPM than another in the short term may be more a matter of luck than of skill.

SUMMARY

Target funds have ballooned to approximately $185 billion, yet the fact that performance tumbled dramatically in 2008 has proved unquestionably disastrous. A cursory examination of these funds is sufficient to realize that they have been poorly designed, ineffectively marketed, and not explained to the participants. The marketing material is designed to prevent lawsuits, but does not let the average participant in a 401(K) plan realize what investments decisions they are making, as opposed to delegating to the fund providers, and that too for high fees. The chapter debunked the appeal of these products by highlighting the poor design, suggested benchmarks for these funds that allow for risk-adjusted performance (across all target dates and fund families), and discussed more appropriate fee structures, given the length of mandate and the high likelihood that these products will not fulfill investors' expectations. This analysis will probably lead to a totally new regulation of these funds and hopefully have them removed from a list of Qualified Default Investment options allowed by the DoL unless the United States wants to bail out yet another industry for poorly designed regulation.